

ANSWERS: Making Salts

1) How to make it

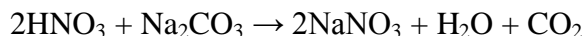
Mix the two solutions together, then take the resulting solution and put it in an evaporating dish. It could be heated using a Bunsen burner or left somewhere warm for a few days. The water would evaporate off leaving behind the neutral salt sodium nitrate.

The solution will be neutral when red and blue litmus papers both stay the same colour. When blue paper changes to red the solution is acidic. When red paper changes to blue the solution is basic.

Word Equation

nitric acid + sodium carbonate \rightarrow sodium nitrate + water + carbon dioxide.

Balanced Equation



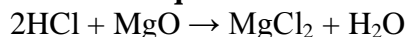
2) Type of reaction

Acid-Base reaction or neutralisation.

Word Equation

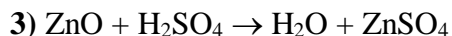
hydrochloric acid + magnesium oxide \rightarrow magnesium chloride + water.

Balanced Equation



How to make it

Add magnesium oxide to hydrochloric acid in a beaker. Heat slightly and pour this into an evaporating dish and leave somewhere warm (e.g. window sill) for a few days or heat over Bunsen to speed up the reaction, so that the water can evaporate, leaving magnesium chloride salt. Safe lab procedure would include dealing appropriately with chemicals such as HCl or the wearing of safety glasses.



ZnO_2 changed to ZnO , as ZnO has a one to one ratio because Zn forms Zn^{2+} / ion and oxygen a O^{2-} / ion.

H_2 was removed from the equation as hydrogen gas is not a product of an acid + base (metal oxide) reaction.

Balanced equations show the same amount / number of atoms on each side so '2' is removed from $2\text{H}_2\text{O}$ as there are 2 H on the left.

4) a) Sulfuric acid chosen.

b) Because it has the sulfate ion required. Copper chloride would be formed with hydrochloric acid.

Copper oxide + sulfuric acid \rightarrow copper sulfate + water

c) Solution bubbles. When an acid reacts with a carbonate, carbon dioxide gas is produced which will be observed as bubbling.

